QC ABSTRACT

NAME OF WORK: "Improvements to Concrete Roads in KG Halli AK Colony an Surrounding Area in Shettyhalli Ward No.12, Shettyhalli Sub Division."

SL NO	Item Of Work	Name of Test	Frequency of Test/Quantity	Executed Quantity	Number of Tests Required	Number of Tests Conducted
		Materials				
1	Cement	Fineness by dry sieving	One Test		1	1
		Finess by Air permeablity method	One Test		1	1
		Density	One Test		1	1
		Standard Consistency	One Test		1	1
		Initial Setting time	One Test		1	1
		Final Setting time	One Test		1	1
		Soundness (Le Chatelier's Method)	One Test		1	1
		Compressive Strength	One Test		1	1
2	Coarse aggregate(40 mm down size)	SIEVE ANALYSIS	One Test		1	1
		Flakiness Index	One Test		1	1
		Elongation Index	One Test		1	1
		Specific Gravity	One Test		1	1
		Bulk Density(Loose)	One Test		1	1
		Bulk Density(Compacted)	One Test		1	1
		Water Absorption	One Test		1	1
3	Coarse aggregate(20 mm down size)	SIEVE ANALYSIS	One Test		1	1
		Flakiness Index	One Test		1	1
		Elongation Index	One Test		1	1
		Specific Gravity	One Test		1	1
		Bulk Density(Loose)	One Test		1	1
		Bulk Density(Compacted)	One Test		1	1
		Water Absorption	One Test		1	1
		Aggregate crushing Value	One Test		1	1
		Aggregate Impact Value	One Test		1	1
4	Fine aggregate	SIEVE ANALYSIS	One Test		1	1
		Water Absorption	One Test		1	1
		Specific Gravity	One Test		1	1
		Material finer than 75 micron	One Test		1	1
5	Steel	Bend test	One Test		1	1
		Tensile Test	One Test		1	1
		Yield Test	One Test		1	1
		ReBend test	One Test		1	1
6	Precast (100mm)	Core Compressive Strength	One Test		1	1
		Corrected Cylinder Compressive Strength	One Test		1	1
		Equivalent Cube Compressive Strength	One Test		1	1
7	RCC(M25)	Compressive Strength(7days and 28days)	9 set /251-300 cum	281.17	18	18
8	Cement Concrete Pavemet (M30)	Compressive Strength(7days and 28days)	9 set /251-300 cum	279.37	18	18
9	GSB	SIEVE ANALYSIS	One Test		1	1

Format No: CP/TF/01

TEST REPORT OF PHYSICAL PROPERTIES OF CEMENT - 53 Grade

Lab ID : **CP-2021-03-19-33** **Date: 18-01-21**

Customer : Assistant Executive Engineer, Shettyhalli Sub Division, BBMP,

Address : Shettyhalli Sub Division, BBMP, Bangalore.

Project Name : "Improvements to Concrete Roads in KG Halli AK Colony an Surrounding Area in Shettyhalli Ward No.12, Shettyhalli Sub Division."

Agency : M/S Technical Manger (west), Karnataka Rural Infrastructure Development Limited, No.280,59th Cross, 17th C Maain Road, 3rd Y Block, Rajaji nagara, Bangaluru-560010

Customer's Reference : EE/DD/W.O/597/2019-20

Source of Sample : Sample supplied by Agency

Sample Condition : Satisfactory

Date of Receipt : 15-01-21

Sample Type : Birla Super 53grade

Reference to BIS codes : IS 12269 : 2013, 53 Grade Ordinary Portland cement Specification ,
IS 4031 (Part 1,2 3,4,5, 6,11):1988
IS 4031 Part 1 DETERMINATION OF FINENESS BY DRY SIEVING, Clause 4.4
IS 4031 Part 2, Determination of Fineness by Blaine Air Permeability Method, Clause 5
IS 4031 Part 3, Determination of Soundness, Clause 5,Clause 6
IS 4031 Part 4, Determination of Consistency of Standard Cement Paste, Clause 5
IS 4031 Part 5, Determination of Initial & Final Setting Time, Clause 5
IS 4031 Part 11,DETERMINATION OF DENSITY , Clause 6

Date of test : 16-01-21

Environmental Conditions during test : Temperature: 26°C
Humidity: 72%

Sl.No.	Physical properties	Results	Requirement as per IS 12269: 2013
1	Fineness by dry sieving (%)	2.2	–
2	Finess by Air permeablity method (m^2/kg,Min)	249.5	225m^2/kg, Min
3	Density (gm/cc)	3.11	–
4	Standard Consistency (%)	27.5%	Not specified
5	Initial Setting time	170 minutes	Not less than 30 minutes
6	Final Setting time	260 minutes	Not more than 600 minutes
7	Soundness (Le Chatelier's Method)	1.5mm	Not more than 10 mm

* The results obtained are satisfactory as per standard requirements.

Note:

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R RUDRAPRASAD
Authorized Signatory
Technical Manager

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Format No: CP/TF/01

TEST REPORT OF PHYSICAL PROPERTIES OF CEMENT - 53 Grade

Lab ID	:	**CP-2021-03-19-33** **Date: 13-02-21**
Customer	:	Assistant Executive Engineer, Shettyhalli Sub Division, BBMP, Bangalore.
Address	:	Shettyhalli Sub Division, BBMP, Bangalore.
Project Name	:	"Improvements to Concrete Roads in KG Halli AK Colony an Surrounding Area in Shettyhalli Ward No.12, Shettyhalli Sub Division."
Agency	:	M/S Technical Manger (west), Karnataka Rural Infrastructure Development Limited, No.280,59th Cross, 17th C Maain Road, 3rd Y Block, Rajaji nagara, Bangaluru-560010
Customer's Reference	:	EE/DD/W.O/597/2019-20
Source of Sample	:	Sample supplied by Agency
Sample Condition	:	Satisfactory
Date of Receipt	:	15-01-21
Sample Type	:	Birla Super 53grade
Reference to BIS codes	:	IS 12269 : 2013, 53 Grade Ordinary Portland cement Specification , IS 4031 Part 4, Determination of Consistency of Standard Cement Paste, Clause 5 IS 4031 Part 6, Determination of Compressive Strength, Clause 6
Date of test	:	16-01-21
Environmental Conditions during test	:	Temperature: 26°C Humidity: 72%

Compressive Strength			
Sl.No.	**Physical properties**	**Results**	**Requirement as per IS 12269: 2013**
1	3 Days	28.5N/mm^2	Not less than 27 N/mm^2
2	7 Days	39.0N/mm^2	Not less than 37 N/mm^2
3	28 Days	58.5N/mm^2	Not less than 53 N/mm^2

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TEST REPORT ON COARSE AGGREGATES

Lab ID	:	**CP-2021-03-19-33**
Customer	:	Assistant Executive Engineer, Shettyhalli Sub Division, BBMP, Bangalore. **Date: 18-01-21**
Address	:	Shettyhalli Sub Division, BBMP, Bangalore.
Project Name	:	"Improvements to Concrete Roads in KG Halli AK Colony an Surrounding Area in Shettyhalli Ward No.12, Shettyhalli Sub Division."
Agency	:	M/S Technical Manger (west), Karnataka Rural Infrastructure Development Limited, No.280,59th Cross, 17th C Maain Road, 3rd Y Block, Rajaji nagara, Bangaluru-560010
Customer's Reference	:	EE/DD/W.O/597/2019-20
Source of Sample	:	Sample supplied by Agency
Sample condition	:	Satisfactory
Date of Receipt	:	15-01-21
Sample Type	:	40mm down size coarse aggregate
Reference to BIS codes	:	IS: 383:2016 (Specification for Coarse and fine Aggregates) IS: 2386 :1963(Part - 1,3,4) RA2011 IS 2386 Part 1: Particle Size and Shape IS 2386 Part 3: Specific gravity, Density, Voids,Water Absorption IS 2386 Part 4: Mechanical Properties
Date of test	:	15-01-21

SIEVE ANALYSIS (PARTICLE SIZE DISTRIBUTION) OF 40MM DOWN COARSE AGGREGATE:

Total weight taken : 15000 grams

Sample No.	Sieve No.	Weight Retained in gms	Cumulative Weight Retained in gms	% Cumulative Weight Retained	% Passing	Required as per IS 383:2016
1	80 mm	0	0	0.0	100	100
2	40 mm	423	423	2.8	97.2	90-100
3	20 mm	5852	6275	41.8	58.2	30-70
4	10 mm	4232	10507	70.0	30.0	10-35
5	4.75 mm	4225	14732	98.2	1.8	0-5
6	Pan	268	15000	100.0	0	---

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TEST REPORT ON COARSE AGGREGATES

Lab ID : **CP-2021-03-19-33**

Date: 18-01-21

PHYSICAL PROPERTIES

Sl.no	Tests	Result	Requirements as per IS:383-2016
1	Flakiness Index(%)	12.3	Combined Flakiness & Elongation Index Shall not Exceed 40% for Uncrushed & Crushed Aggregate
2	Elongation Index(%)	11.5	
3	Specific Gravity	2.68	–
4	Bulk Density(Loose) (Kg/l)	1.56	–
5	Bulk Density(Compacted) (Kg/l)	1.59	–
6	Water Absorption(%)	0.21	–

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TEST REPORT OF CEMENT CONCRETE CUBES

Lab ID	:	**CP-2021-03-19-33** **Date: 03/02/2021**
Customer	:	Assistant Executive Engineer, Shettyhalli Sub Division, BBMP, Bangalore.
Address	:	Shettyhalli Sub Division, BBMP, Bangalore.
Project Name	:	"Improvements to Concrete Roads in KG Halli AK Colony an Surrounding Area in Shettyhalli Ward No.12, Shettyhalli Sub Division."
Agency	:	M/S Technical Manger (west), Karnataka Rural Infrastructure Development Limited, No.280,59th Cross, 17th C Maain Road, 3rd Y Block, Rajaji nagara, Bangaluru-560010
Customer's Reference	:	EE/DD/W.O/597/2019-20
Source of Sample	:	Sample supplied by Agency
Sample Condition	:	Satisfactory
Date of Receipt	:	29-01-21
Customer ID	:	RCC
Sample Type /Size	:	150X150X150 mm
Sample grade/Age	:	M25 / 7 Days Compressive Strength
Reference to BIS codes	:	IS: 516 - 1959 Methods of Tests for Strength of Concrete Cl.5

Date of test : 03/02/2021

Sl. No.	Identification Mark	Grade of concrete	Date of Casting	Date of Testing	Dimension of the Specimen (mm)	Cross sectional area (Sq.mm)	Weight of the sample (kg)	Failure Load (KN)	Compressive strength (N/mm^2)	Average Compressive Strength (N/mm^2)
1	RCC	M25	27/01/2021	03/02/2021	151.00 X 149.94 X 151.59	22640	8.740	522.4	23.1	22.7
2	RCC	M25	27/01/2021	03/02/2021	149.39 X 151.81 X 151.24	22680	8.230	509.9	22.5	
3	RCC	M25	27/01/2021	03/02/2021	151.45 X 150.67 X 150.00	22818	8.378	515.8	22.6	

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TEST REPORT OF CEMENT CONCRETE CUBES

Date: 25/02/2021

Lab ID	:	CP-2021-03-19-33
Customer	:	Assistant Executive Engineer, Shettyhalli Sub Division, BBMP, Bangalore.
Address	:	Shettyhalli Sub Division, BBMP, Bangalore.
Project Name	:	"Improvements to Concrete Roads in KG Halli AK Colony an Surrounding Area in Shettyhalli Ward No.12, Shettyhalli Sub Division."
Agency	:	M/S Technical Manger (west), Karnataka Rural Infrastructure Development Limited, No.280,59th Cross, 17th C Maain Road, 3rd Y Block, Rajaji nagara, Bangaluru-560010
Customer's Reference	:	EE/DD/W.O/597/2019-20
Source of Sample	:	Sample supplied by Agency
Sample Condition	:	Satisfactory
Date of Receipt	:	30-01-21
Customer ID	:	RCC
Sample Type /Size	:	150X150X150 mm
Sample grade/Age	:	M25 / 28 Days Compressive Strength
Reference to BIS codes	:	IS: 516 - 1959 Methods of Tests for Strength of Concrete Cl.5

Date of test : 25/02/2021

Sl. No.	Identification Mark	Grade of concrete	Date of Casting	Date of Testing	Dimension of the Specimen (mm)	Cross sectional area (Sq.mm)	Weight of the sample (kg)	Failure Load (KN)	Compressive strength (N/mm^2)	Average Compressive Strength (N/mm^2)
1	RCC	M25	28/01/2021	25/02/2021	151.82 X 150.35 X 149.58	22826	9.070	621.4	27.2	27.2
2	RCC	M25	28/01/2021	25/02/2021	149.72 X 151.46 X 149.49	22677	8.159	593.8	26.2	
3	RCC	M25	28/01/2021	25/02/2021	149.36 X 149.39 X 151.37	22313	8.349	628.8	28.2	

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TEST REPORT OF CEMENT CONCRETE CUBES

Lab ID	:	**CP-2021-03-19-33** **Date: 12/02/2021**
Customer	:	Assistant Executive Engineer, Shettyhalli Sub Division, BBMP, Bangalore.
Address	:	Shettyhalli Sub Division, BBMP, Bangalore.
Project Name	:	"Improvements to Concrete Roads in KG Halli AK Colony an Surrounding Area in Shettyhalli Ward No.12, Shettyhalli Sub Division."
Agency	:	M/S Technical Manger (west), Karnataka Rural Infrastructure Development Limited, No.280,59th Cross, 17th C Maain Road, 3rd Y Block, Rajaji nagara, Bangaluru-560010
Customer's Reference	:	EE/DD/W.O/597/2019-20
Source of Sample	:	Sample supplied by Agency
Sample Condition	:	Satisfactory
Date of Receipt	:	08-02-21
Customer ID	:	Cement Concrete Pavement
Sample Type /Size	:	150X150X150 mm
Sample grade/Age	:	M30 / 7 Days Compressive Strength
Reference to BIS codes	:	IS: 516 - 1959 Methods of Tests for Strength of Concrete Cl.5
Date of test	:	12/02/2021

Sl. No.	Identification Mark	Grade of concrete	Date of Casting	Date of Testing	Dimension of the Specimen (mm)	Cross sectional area (Sq.mm)	Weight of the sample (kg)	Failure Load (KN)	Compressive strength (N/mm^2)	Average Compressive Strength (N/mm^2)
1	Cement Concrete Pavement	M30	05/02/2021	12/02/2021	150.73 X 150.42 X 150.05	22673	8.771	578.9	25.5	25.3
2	Cement Concrete Pavement	M30	05/02/2021	12/02/2021	151.61 X 151.85 X 149.01	23022	8.189	599.6	26.0	
3	Cement Concrete Pavement	M30	05/02/2021	12/02/2021	149.54 X 151.30 X 149.67	22626	8.720	552.0	24.4	

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TEST REPORT OF CEMENT CONCRETE CUBES

Lab ID : CP-2021-03-19-33 **Date: 13/02/2021**

Customer : Assistant Executive Engineer, Shettyhalli Sub Division, BBMP, Bangalore.

Address : Shettyhalli Sub Division, BBMP, Bangalore.

Project Name : "Improvements to Concrete Roads in KG Halli AK Colony an Surrounding Area in Shettyhalli Ward No.12, Shettyhalli Sub Division."

Agency : M/S Technical Manger (west), Karnataka Rural Infrastructure Development Limited, No.280,59th Cross, 17th C Maain Road, 3rd Y Block, Rajaji nagara, Bangaluru-560010

Customer's Reference : EE/DD/W.O/597/2019-20

Source of Sample : Sample supplied by Agency

Sample Condition : Satisfactory

Date of Receipt : 08-02-21

Customer ID : Cement Concrete Pavement

Sample Type /Size : 150X150X150 mm

Sample grade/Age : M30 / 7 Days Compressive Strength

Reference to BIS codes : IS: 516 - 1959 Methods of Tests for Strength of Concrete Cl.5

Date of test : 13/02/2021

Sl. No.	Identification Mark	Grade of concrete	Date of Casting	Date of Testing	Dimension of the Specimen (mm)	Cross sectional area (Sq.mm)	Weight of the sample (kg)	Failure Load (KN)	Compressive strength (N/mm^2)	Average Compressive Strength (N/mm^2)
1	Cement Concrete Pavement	M30	06/02/2021	13/02/2021	151.28 X 150.28 X 150.39	22734	8.113	585.5	25.8	25.5
2	Cement Concrete Pavement	M30	06/02/2021	13/02/2021	149.93 X 149.27 X 151.30	22380	8.781	593.7	26.5	
3	Cement Concrete Pavement	M30	06/02/2021	13/02/2021	150.72 X 150.05 X 150.03	22614	8.881	546.3	24.2	

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TEST REPORT OF CEMENT CONCRETE CUBES

Lab ID	:	**CP-2021-03-19-33** **Date: 06/03/2021**
Customer	:	Assistant Executive Engineer, Shettyhalli Sub Division, BBMP, Bangalore.
Address	:	Shettyhalli Sub Division, BBMP, Bangalore.
Project Name	:	"Improvements to Concrete Roads in KG Halli AK Colony an Surrounding Area in Shettyhalli Ward No.12, Shettyhalli Sub Division."
Agency	:	M/S Technical Manger (west), Karnataka Rural Infrastructure Development Limited, No.280,59th Cross, 17th C Maain Road, 3rd Y Block, Rajaji nagara, Bangaluru-560010
Customer's Reference	:	EE/DD/W.O/597/2019-20
Source of Sample	:	Sample supplied by Agency
Sample Condition	:	Satisfactory
Date of Receipt	:	08-02-21
Customer ID	:	Cement Concrete Pavement
Sample Type /Size	:	150X150X150 mm
Sample grade/Age	:	M30 / 28 Days Compressive Strength
Reference to BIS codes	:	IS: 516 - 1959 Methods of Tests for Strength of Concrete Cl.5
Date of test	:	06/03/2021

Sl. No.	Identification Mark	Grade of concrete	Date of Casting	Date of Testing	Dimension of the Specimen (mm)	Cross sectional area (Sq.mm)	Weight of the sample (kg)	Failure Load (KN)	Compressive strength (N/mm^2)	Average Compressive Strength (N/mm^2)
1	Cement Concrete Pavement	M30	06/02/2021	06/03/2021	151.45 X 151.96 X 150.78	23014	8.891	767.5	33.4	33.2
2	Cement Concrete Pavement	M30	06/02/2021	06/03/2021	149.01 X 150.36 X 150.47	22405	8.821	735.3	32.8	
3	Cement Concrete Pavement	M30	06/02/2021	06/03/2021	151.08 X 150.54 X 151.41	22743	8.449	759.5	33.4	

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